

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003171**Date Inspected:** 19-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

The Quality Assurance (QA) Inspector Gregory Bertlesman arrived on site at the Zhenhua Port Machinery Company facility on Changxing island, China to periodically monitor welding and Quality Control functions. While on site the Quality Assurance Inspector observed and/or discovered the following.

Deck Panel Production Welding

The Quality Assurance Inspector witnessed the welding of the production panels DP-304-001 (3 rib) and DP-331-001 (4 rib). The welding was performed on gantry 2 to produce the partial joint penetration groove weld. Upon completion of the gas metal arc welding (GMAW) root pass ZPMC performed the subsequent submerged arc welding (SAW) pass. The parameters appeared to be within welding procedure specification for dual process WPS-B-T-2342-U1 (U-rib)-3.

The Quality Assurance Inspector was informed by ABF Representative Kit Man Li that ZPMC performed magnetic particle inspection to 100 percent of the GMAW tack welds on Deck Panel DP-304-001. Of the 150 tested, 62 were marked for repair making a total of 41.33 percent.

The Quality Assurance Inspector performed a survey over the last week in regards to Request for Information ABF-RFI-001390R00, proposal to waive the 40 millimeter complete joint penetration (CJP) portion of the intermediate continuity plate and replace with a double sided fillet weld. First, the as built length of the CJP is approximately 100 to 110 millimeters. Below is a digital photograph illustrating the actual weld length. Sheet SD14, Detail 14N requires the weld CJP weld length to be 40 millimeters. The Quality Assurance Inspector generated an Incident Report pertaining to the issue.

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In general the root opening observed did not exceed 2 millimeters. The photograph below illustrates the continuity plates root opening not exceeding one millimeter.

QA measured the distance between the ribs after the continuity plate was tacked in place. Below are the before and after welding measurements that QA recorded:

DP-602-001-122, 287mm when tacked, and 285mm after being welded

DP-602-001-120, 289mm when tacked, and 285mm after being welded

DP-602-001-118, 289mm when tacked, and 285mm after being welded

DP-602-001-115, 288mm when tacked, and 286mm after being welded

In addition, QA measured the depth of back gouge. The excavation was made by utilizing the air carbon arc process and grinder. The depth of the back gouge varies but in several instances QA observed the excavation to be the full thickness of the 18 mm plate. Below is a digital photograph illustrating the depth of excavation.



Summary of Conversations:

As stated in the contents of the above report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or

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remedial efforts please contact Ady Velasco(707) 552 7715, who represents the Office of Structural Materials for your project.

Inspected By:	Bertlesman,Greg	Quality Assurance Inspector
Reviewed By:	Cochran,Jim	QA Reviewer
